PetroTechnik

protecting your liquid assets

IMPORTANT - READ THIS FIRST!

The EW8 -110V Welder has been improved. Some operating methods have been updated. Please read this document carefully and discard all older versions

Version 3 04/10/06

Welder

EW8 - 110V

User Manual

PetroTechnik Australia	+61 3 95 50 18 74
PetroTechnik do Brasil	+55 11 3159 0909
PetroTechnik France	+33 1 69 21 41 41
PetroTeknik AB	+46 8 767 86 34
PetroTechnik Inc.	+1 201 871 7300
P&D Japan	+81 3 3297 7870

Headquarters
PetroTechnik Ltd
PetroTechnik House
Olympus Close, Whitehouse Industrial Estate,
Ipswich, Suffolk, IP1 5LN,
United Kingdom

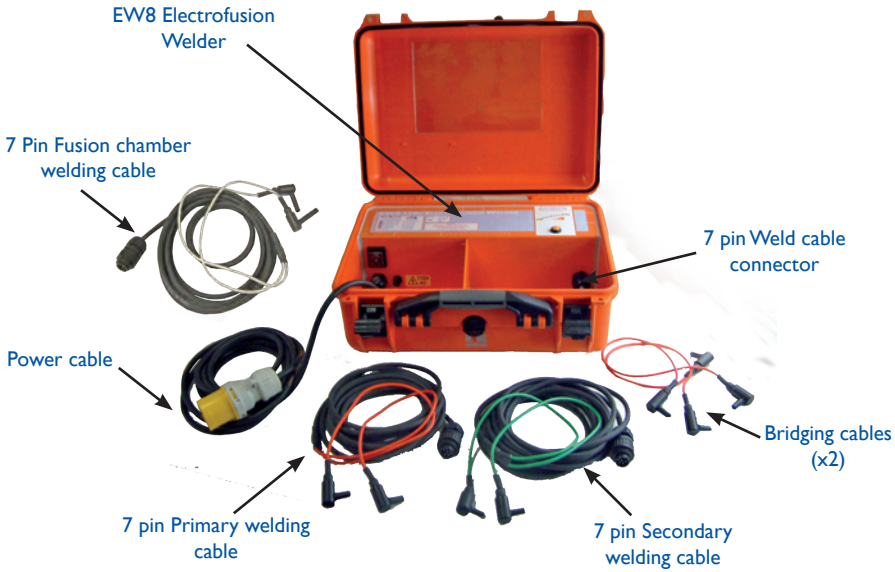
tel. +44 (0) 1473 243300 fax. +44 (0) 1473 243301 email. info@petrotechnik.com

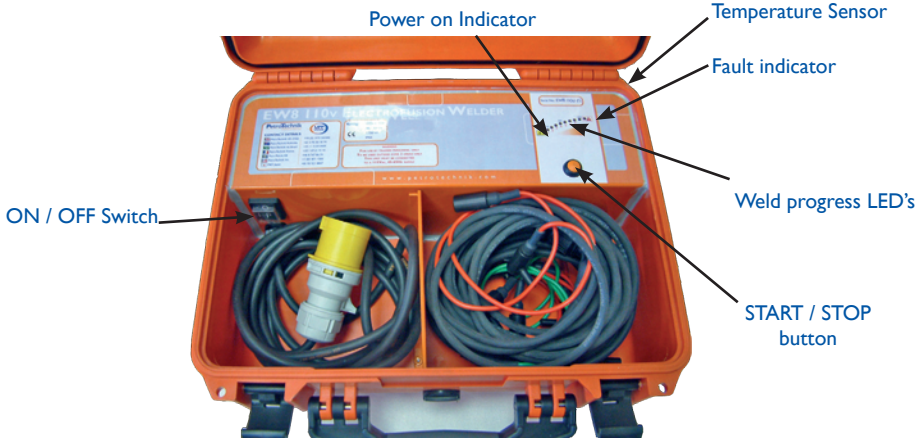
www.petrotechnik.com

EW8110V-MAN-02-09/06

UPP SYSTEMS

NOTE: EW8 welding cables use special 7 pin connectors NOT regular 4 pin connectors


EW8 Electrofusion Welder
7 Pin Fusion chamber welding cable
7 pin Weld cable connector
Power cable
Bridging cables (x2)
7 pin Primary welding cable
7 pin Secondary welding cable



Technical Details

UPP Stock Code Number	EW8-110V
Operating Voltage	110 Volts +/-10%
Operating Frequency	45 to 65Hz
Power Rating	1150vA
Protection Class	IP65
Operating Temperature	-15°C to +45°C
Shipping Dimensions	420 x 340 x 180mm
Shipping Weight	11.3kg

Fault Indicators

When an error has occurred during the weld cycle that will have an effect on the success of the joint, the red warning LED on the right side of the display will light up. Also one of the "weld progress" lights will light up at the same time to show what type of fault has occurred.

Error Led	Fault Indicated	Meaning	Solution
1	Power supply failure during weld	The power supply was off at sometime during the weld	Check and rectify power supply Check plug connection Re-weld fitting only after it is allowed to cool to ambient temperature
2	Stop button pressed during weld		Re-weld fitting only after it is allowed to cool to ambient temperature
3	Power supply out of limits	Supply frequency not between 45 and 65 Hz, or Voltage not between 98 & 121 Volts	Check and rectify generator output Check mains supply
4	Ambient temperature out of range	Temperature of the EW8 is not between -15°c and +45°c	Allow EW8 and fitting to cool in the shade Wait for ambient temperature to return to range
5	No output current (open circuit)	Loose connection to terminal pin Loose contact in the welding circuit Faulty fitting Start button not depressed for long enough	Make sure connectors are pushed firmly on to terminal pins Check welding cable connection and continuity Replace fitting See operating sequence, step 5
6	Low output current	Resistance value of fitting is too high Too many fittings connected in series (Primary mode only) Input voltage too low	Use only UPP electrofusion fittings and correct welding cable Check resistance codes on fittings - do not exceed a sum total of 10 Check supply voltage
7	High output current	Regulation error in electronics	Switch off machine and switch on again after 10 seconds. If problem persists, return EW8 to supplier

The EW8 can be reset after a fault has been rectified by pressing and holding the Start / Stop button for 3 seconds.

Application

The EW8 is designed to automatically weld UPP Primary and Secondary Containment electrofusion fittings.

Also, using the white 7A welding leads, the EW8 can be used to weld the UPP Fusion chamber riser to the chamber base.

It can be used in ambient temperatures between -15°C and +45°C.

Only personnel fully trained in the use and installation of the UPP system should use this equipment.

Main Features

UPP electrofusion fittings are welded using a constant current. The EW8 automatically recognises the fitting when connected and applies the correct amount of energy for a successful weld.

The EW8 takes the ambient temperature into account when calculating the energy required to weld correctly. It must therefore be allowed to reach ambient temperature before use and must be at the same temperature as the fitting to be welded. The temperature sensor is located at the rear of the unit on the right hand side.

The EW8 works on standard alternating current and either a mains connection or a generator can be used. Generators must have a rated output of at least 4kW and power input must be between 98 and 121volts at 45 to 65Hz.

The EW8 has an on/off button, a weld start button and an LED display showing the weld progress. The LEDs can also show any fault conditions that may affect the weld.

Safety

The EW8 is designed for usage on construction sites and meets applicable European and International safety standards.

The machine should be handled with the care usually given to electrical equipment, especially during transport.

The machine must only be used outside of hazardous areas (zones 0, 1 and 2).

Each time it is used, check the condition of the machine, particularly the mains power cable. If any damage is discovered, contact the supplier immediately and do not use the machine.

Check the state of the welding cables before use and replace them if there is any doubt about their condition.

Always check that the power source is within the parameters shown above before using the EW8.

Never lift or pull the machine by its power cable or the welding cables. Never disconnect welding cables by pulling the cable; always pull off the connectors.

Liability Restrictions

All liabilities of the supplier are invalidated in the following cases:

- The EW8 is used outside the indicated application area
- Non-UPP fittings or pipe are used
- The operator has not been trained to use the EW8 or the UPP system
- Operating instructions have not been observed
- Unauthorised repairs or maintenance have been carried out
- The EW8 has been used outside of its technical specification
- Safety instructions have not been observed

Using the EW8

Ensure that the machine is positioned outside hazardous zones 0, 1 and 2

Allow the machine and fittings to reach the ambient temperature of the site.

Keep the machine out of direct sunlight and free of any obstruction.

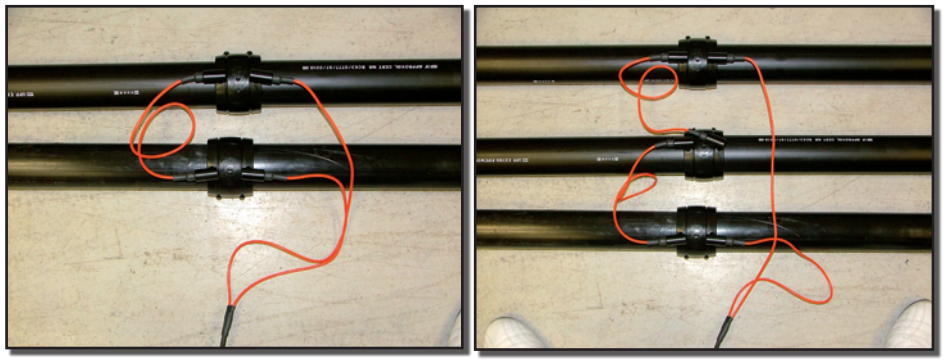
Make sure fittings and pipe have been prepared in accordance with UPP Installation instructions.

Step	Action	Information on Display
1	Connect the required welding lead to the EW8 Welder PRIMARY fittings=RED lead SECONDARY fittings=GREEN lead	None
2	Connect welding lead to the UPP fusion fitting(s), making sure connectors are firmly pushed onto pins	None
3	Connect the EW8 Welder to a 110v power supply	None
4	Switch ON	All LEDs light in sequence, then green Power LED remains on
5	Press orange START button until first weld light illuminates	First weld light comes on then successive LEDs light up until green 100% LED is lit, showing weld is complete
6	Disconnect welding lead from fitting	100% LED and Power LED remains on
7	ALWAYS Reset for next weld by holding START button for 3 seconds	All LEDs light in sequence, then green power LED remains on

Multiple Welds

In Primary mode the EW8 can simultaneously weld up to three UPP fittings, provided that:

- The sum of the resistance values (circled number on UPP fittings) does not exceed 10
- The UPP fittings are connected to the EW8 in series using the bridging leads provided (see photos below)



You can ensure that you have connected the fittings correctly and that the welds are successful by checking that all of the connected fittings get warm and that all of the indicator pins are exposed at the end of the welding time.
It is not possible to do multiple welds on Secondary fittings. These can be identified by their smaller terminal pins and require the use of the green welding cables.

Other Useful Tips

Switch off the machine during breaks and at the end of the job.

The weld cycle can be stopped at any time by pressing the START/STOP button. This will generate an error code and you must wait for the fitting to cool before attempting to continue.

If you have any doubt about a welded joint, UPP fittings can be welded again provided they are left to cool to ambient temperature.

NEVER RE-WELD A FITTING THAT IS STILL WARM